Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently Amended). A method for monitoring the effectiveness of an administered agent that interacts with the A_3 adenosine receptor (A3AR) in treatment of a disease state in an individual, the method comprising

(i) at a defined time point following administration of the agent to the individual, selected such so as to permit the agent to reach and affect cells in the individual that are associated with the disease state, withdrawing a sample of said cells or tissue containing said cells from the individual;

(ii) detecting the level of at least one physiological parameter of at least one biological marker in said cells, the marker being an A3AR, or an element associated with the A3AR signal transduction pathway downstream to A3AR; and

(iii) comparing the level of said at least one parameter to a control level, being the level thereof in such cells or tissue from the same

individual before administration of said agent, or being a standard reference for said marker which is indicative of an untreated disease state;

wherein said disease is cancer or an inflammatory disease, said physiological parameter is selected from the group consisting of: the level of mRNA or protein expression, the level of phosphorylation and the cellular localization, and wherein a difference in level of the physiological parameter from control is indicative of the effectiveness of said treatment against the disease state.

2 (Previously Presented). The method according to claim 1, wherein the agent that interacts with the A3AR is an A3AR agonist.

3 (Previously Presented). A method according to claim 1, wherein the A3AR signal transduction pathway is the Wnt pathway.

4 (Previously Presented). A method according to claim 3, wherein the element is at least one element selected from the group consisting of PKA, PKB/Akt, GSK-3β, β-catenin, cyclin D1, and c-myc.

5 (Previously Presented). A method according to claim 1, wherein the A3AR signal transduction pathway is the NF-κB pathway.

6 (Previously Presented). A method according to claim 5, wherein the element is at least one element selected from the group consisting of NF-κB, PI3K, IKK, c-myc, and cyclin D1.

7-9 (Cancelled)

10 (Currently Amended). The method of claim ~~9~~1, wherein said cancer is melanoma, colon carcinoma or prostate cancer.

11 (Cancelled)

12 (Currently Amended). The method according to claim ~~8~~1, wherein effective treatment against the disease is indicated by a change in a physiological parameter of a biological marker selected from the group consisting of:

(a) a decrease of the protein level or the mRNA level coding therfor, of at least one of A3AR, PKB/Akt, PKA, β-catenin, c-myc, cyclin D1, NF-κB, and TNF-α; or an increase in the protein level or mRNA coding therefor of GSK-3β;

(b) at least one change in phosphorylation level selected from the group consisting of a decrease in phosphorylation level of GSK-3β, and an increase in the phosphorylation level of PKB/Akt, PKA or β-catenin; and

(c) at least one change in cellular localization selected from the group consisting of a decrease in the localization of A3AR receptor in the cellular membrane as compared to control, and a decrease in the localization of β-catenin or NF-κB in the nucleus as compared to cytosol.

13 (Currently Amended). A method according to claim 1, wherein said disease state is a disease or condition wherein a beneficial therapeutic effect is evident by increased cell proliferation.

14 (Previously Presented). The method of claim 13, wherein said disease state is a decrease in white blood cell count, especially neutrophils, as a result of chemo- or radio-therapy.

15 (Previously Presented). The method of claim 13, wherein effective treatment against the disease is indicated by a change in a physiological parameter of a biological marker selected from the group consisting of:

(a) an increase of the protein level, or of the level of mRNA coding therefor, of at least one of A3AR, PKB/Akt, PKA, β-catenin, c-myc, cyclin D1 and NF-κB, or a decrease in the protein or mRNA level of GSK-3β;

(b) at least one change in phosphorylation level selected from the group consisting of an increase in phosphorylation level of GSK-3β, and a decrease in the phosphorylation level of PKB/Akt, PKA or β-catenin; and

(c) at least one change in cellular localization selected from the group consisting of an increase in the localization of A3AR receptor in the cellular membrane as compared to control, and an increase in the localization of β-catenin in the nucleus as compared to cytosol.

16 (Cancelled)

17 (Currently Amended). A method according to claim 2, wherein the A3AR agonist is 1-deoxy-1-[6[[(3-iodophenyl)methyl]amino]-9H-purine-9-yl]-N-methyl-β-D-ribofura-nuronaminde (IB-MECA).

18-24 (Canceled).

25 (Currently Amended). A method for determining ~~whether a drug candidate is~~the effectiveness of an A3AR agonist ~~useful~~ in treating a disease state manifested in diseased cells, the method comprising:

(i) administering said drug candidate to a subject having said disease state;

(ii) at one or more defined time points following the administration, withdrawing a sample of the diseased cells or tissue containing said cells from the subject;

(iii) detecting the level of at least one physiological parameter of at least one biological marker in said cells, the marker being an A3AR, or an element associated with the A3AR signal transduction pathway which is downstream to the A3AR; and

(iv) comparing the level of said at least one parameter to the level in diseased cells withdrawn from a subject not administered with said drug candidate;

wherein said disease is cancer or an inflammatory disease, said physiological parameter is selected from the group consisting of: the level of mRNA or protein expression, the level of phosphorylation and the cellular localization, and wherein a difference in level of the physiological parameter between the treated and untreated sample is indicative ~~that the drug candidate is an~~of said effectiveness of the agonist of A3AR.

26 (Previously Presented). A method according to claim 25, wherein the A3AR signal transduction pathway is the Wnt pathway.

27 (Previously Presented). A method according to claim 26, wherein the element is at least one element selected from the group consisting of PKA, PKB/Akt, GSK-3β, β-catenin, cyclin D1, and c-myc.

28 (Previously Presented). A method according to claim 25, wherein the A3AR signal transduction pathway is the NF-κB pathway.

29 (Previously Presented). A method according to claim 22, wherein the element is at least one element selected from the group consisting of NF-κB, PI3K, IKK, TNF-α, c-myc, and cyclin D1.

30-31 (Cancelled)